

Response to Official Action
Application No. 10/622,685
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Amendments to the Drawings:

No amendments are made to the Drawings herein.

REMARKS

All claims stand rejected under 35 U.S.C. 103(a) as being unpatentable over Saadatmanesh et al. (U.S. Patent No. 5,242,438) in view of Narciso, Jr. (U.S. Patent No. 5,441,497). Applicant respectfully asks the Examiner to reconsider this rejection in view of the below Remarks.

The present invention is directed to an apparatus for applying light to a site to be treated on a wall of a vessel in the human or animal body, in particular for laser welding of two vessels to one another. The apparatus includes a light-feeding instrument that guides light generated by an extracorporeal light source to the site and radiates it onto the latter. The light-feeding instrument has an elongated optical conductor that can be inserted into the lumen of the vessel and can be displaced therein in the longitudinal direction of the vessel, and has light-deflecting means that direct the light fed through the optical conductor in a substantially radial fashion onto the site to be treated. Moreover, all claims require that the apparatus also include holding means for fixing the vessel during the application of the light, the holding means having a balloon that extends axially beyond a distal end of the light guide and beyond the light-deflecting means and surrounds the light guide and the light-deflecting means.

These highlighted requirements are important in that configuring the balloon to surround the light guide and the light-deflecting means allows for the fixing of the two vessels to one another for the welding operation, by permitting the two vessels to be aligned with one another very precisely, for example in the case of an end-to-end join, without axial offsetting, thereby making it possible to produce a very clean weld between the vessels. This is best illustrated in Figures 3(b) and 3(c) of the present application.

Applicant respectfully submits that neither of the cited prior art references, either alone or when properly combined, discloses, teaches or suggests in any way at least the above-highlighted requirements of all claims.

Saadatmanesh et al. discloses a method and device for directing laser radiation to a body cavity site. A hollow, elongate, optical fiber is advanced, usually in a containing device, to the vicinity of the site and coupled to a laser source with a distal end region of the fiber extending along a longitudinal axis. The fiber terminates in an energy delivery surface for emitting laser radiation transmitted by the fiber. The radiation is intercepted at a location axially aligned with the energy delivery surface and is reflected in a beam radiating substantially transversely of, and substantially circumferentially around, the axis. A reflector member or block is provided for reflecting the radiation and is mounted in an open end of the catheter at a selected axial position along the axis. A fluid, such as a flushing fluid, can be directed between the end of the fiber, against the reflector member, and to the body site.

However, as is recognized by the Examiner, Saadatmanesh et al. does not disclose, teach or suggest in any way a holding means having a balloon that extends axially beyond a distal end of the light guide and beyond the light-deflecting means and surrounds the light guide and the light-deflecting means. Instead, the Examiner cites Narciso, Jr. as disclosing such a holding means, and asserts that it would have been obvious to one having ordinary skill in the art to have incorporated the balloon of Narciso, Jr. into the Saadatmanesh et al. device. Applicant respectfully disagrees.

It is well settled that the mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 916 F.2d 680, 16 U.S.P.Q.2d 1430 (Fed. Cir. 1990). It is also well settled that if the proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984).

In the present case, Saadatmanesh et al. clearly and repeatedly teaches that the end thereof surrounding the reflector member should be completely open (with the exception of small struts connecting the end portion to the main portion of the shaft), and that there should be no intervening covers or the like on the shaft. This is so mainly for two reasons.

First, according to Saadatmanesh et al., covers are undesirable because they can interfere with the beam reflected by the reflector member. (see, for example, Column 4, Lines 47-50, wherein it is stated: "The radiation beam is directed to the site without passing through intervening covers or windows that can attenuate, refract, disperse, or otherwise interfere with the beam."; Column 9, Lines 6-11, wherein it is stated: "The emitted radiation is intercepted by the reflector member 164, at a location which is exposed to the body cavity site, and the radiation reflected transversely of, and substantially around, the longitudinal axis 160 by the reflector member 164."; and Column 13, Lines 54-57, wherein it is stated: "The catheter 600 provides a completely unobstructed region around the reflector block 664 through which the radiation can be laterally reflected to the body site in a 360° circumferential beam."). Thus, one skilled in the art considering Saadatmanesh et al. even if that person were also faced with Narciso,

Jr., would be taught against incorporating the balloon of Narciso, Jr. into the Saadatmanesh et al. device, because an open end for the passage of reflected radiation would no longer be provided.

Secondly, regardless of the teachings of Saadatmanesh et al. concerning the unimpeded passage of reflected radiation, the open end of the Saadatmanesh et al. device is necessary for the device to function as intended. This is true because the Saadatmanesh et al. device introduces a fluid through the opening adjacent the reflector means, which fluid is used to cool the reflector means and/or flush or treat the body site. (see, for example, Column 3, Lines 12-16, wherein it is stated: "Further, means are provided for introducing a fluid through or to the catheter opening adjacent the reflector means. This can be used for cooling the reflector means or for flushing or treating the body site."; and Column 9, Line 54 - Column 9, Line 1, wherein it is stated: "Fluids, such as the above-discussed treatment fluids or flushing fluids, may be pumped through the endoscope, cannula, or other surgical tool or through the catheter channels 146 in the head 136 so that the fluid passes out of the head 136 between the struts 170 to the body site."). Thus, if the balloon of Narciso, Jr. were incorporated into the Saadatmanesh et al. device, the Saadatmanesh et al. device would no longer be satisfactory for at least one of its intended purposes, namely introducing fluid past the reflector means (thereby cooling it) and to the body site (for flushing and treatment purposes). Rather, if Saadatmanesh et al. were modified to include a balloon that extends axially beyond a distal end of the light guide and beyond the light-deflecting means and surrounds the light guide and the light-deflecting means, fluid would not reach the body site being treated, but rather would collect within the balloon.

In view of the above, Applicant respectfully submits that one skilled in the art, even if he/she was faced with both Saadatmanesh et al. and Narciso, Jr., would not modify the device disclosed in Saadatmanesh et al. to incorporate the balloon of Narciso, Jr. because (1) such a combination/modification is expressly and repeatedly taught against by the references themselves, and (2) because doing so would render the Saadatmanesh et al. device unsuitable for at least some of its intended purposes. Applicant further respectfully submits that the only reason one skilled in the art would combine/modify Saadatmanesh et al. and Narciso, Jr. to arrive at the claimed invention is if he/she used the present application as a roadmap. Of course, such is not a proper basis for a prior art rejection.

For the foregoing reasons, Applicant respectfully submits that all pending claims, namely Claims 1, 2, 4-12, 15, 16, 18-33, 36, 37 and 39-44, are patentable over the references of record, and earnestly solicits allowance of the same.

Respectfully submitted,



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